

May 10, 1965

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Dear Peter:

I was glad to hear from you via your letter of 28 April.

If you will write formally on behalf of your group to Dr. Freeman Quimby* I am sure that you will be placed on a mailing list for more regular receipt of documents. Meanwhile I am sending you some additional material that I happen to have extra copies of under separate cover.

Personally, I am in favor of a quite different approach to the organization of the effort in exobiology, one which would make the possibility of collaborative participation a much more meaningful one. Instead of a number of independent investigators attempting to produce their own hardware for doing various experiments, I would prefer to see a large computer controlled laboratory setup in which different investigators would participate by writing programs to implement the various manipulations of sample reagents and the use of the common instrumental facilities in the laboratory. This would also enable a sustained dialogue to be maintained after the completion of the first prohibitive experiments. It would be very difficult to implement a program of this magnitude before 1975, both from the standpoint of the lead time in the development of the laboratory as a computer controlled system, and from the standpoint of the availability of the requisite boosters. We are trying to get further support from NASA to demonstrate the possibility of automating our own laboratory experimentation as a prelude to the design of a Mars landing system in which a wide variety of experimenters could collaborate. The 1975 lander has a potentiality for some 50,000 pounds of scientific payload delivered to the surface of Mars, so I think it is quite realistic to consider that payload weight is not the limiting factor, but rather the development of the rather complex system for automated handling of the experimental material.

I am not surprised to find that a systematist would be interested in the taxonomy of molecular structures. I was surprised to find how little work the geometers had done in such matters as the enumeration of the polyhedra. In a few weeks I hope to be able to send you Part II of the DENDRAL report, which gives a fairly detailed account of this.

Sincerely yours,

Joshua Lederberg
Professor of Genetics

SNEATH, P. H. A.